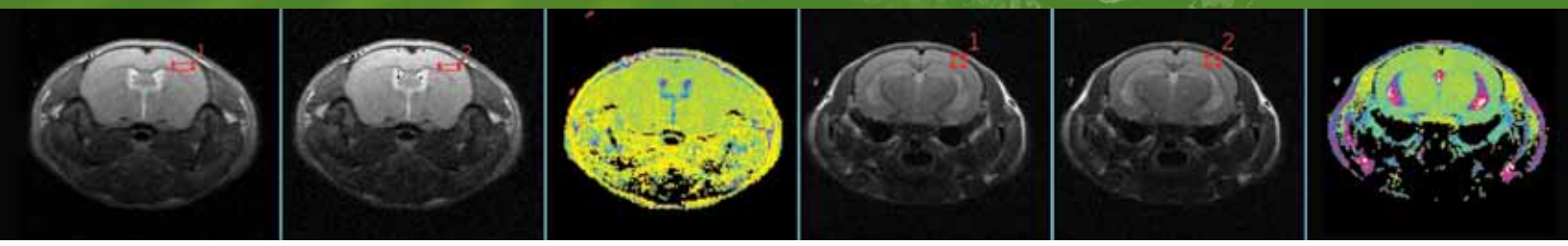
Agilent nScope eMRI Applications for Pre-Clinical Research

ACCESSIBLE MRI METHODS: MOUSE BRAIN RELAXOMETRY

The Measure of Confidence

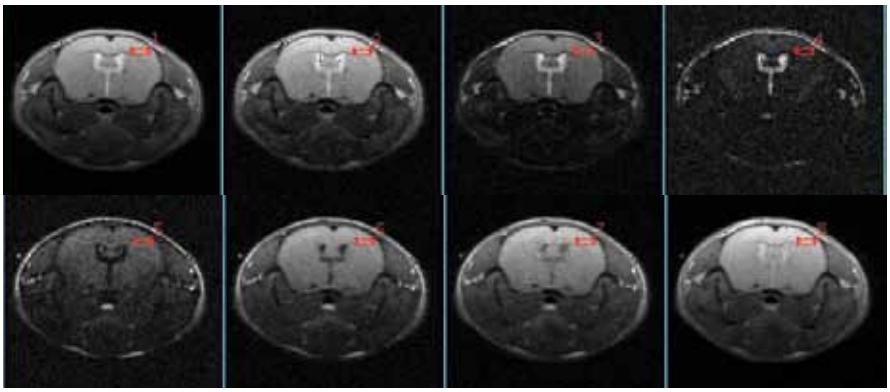


Agilent Technologies

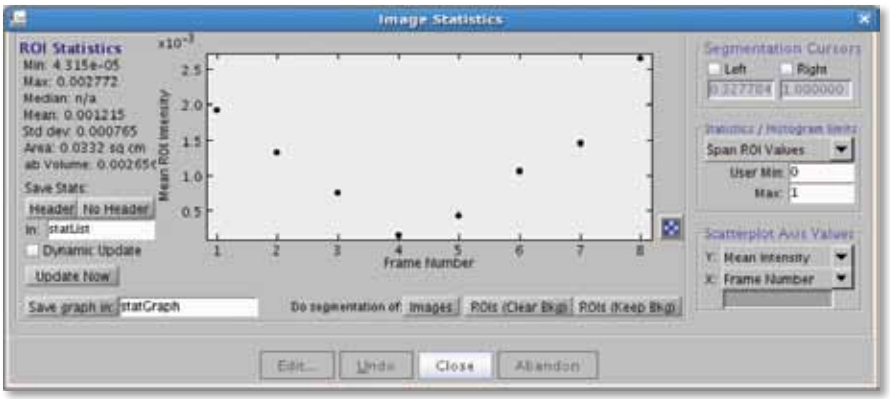
EVALUATE DISEASE MODELS EASILY USING PROTOCOLS OPTIMIZED FOR BRAIN RELAXOMETRY

Agilent Technologies has created the nScope eMRI system to support your pre-clinical MRI research with the Agilent Neuro Pack, a collection of pre-selected pulse sequences, recommended scanning parameters, and optimized protocols for key neuroscience applications in small animal models. With these tools, and our automated shimming routines for tackling homogeneity challenges, you can stay focused on the science.

The Agilent Neuro Pack includes relaxometry protocols that give you ready-to-use methods for measuring T1 and T2, and generating maps with color overlays. These tools will help you identify disease biomarkers, distinguish abnormal tissues, and investigate novel contrast agents.



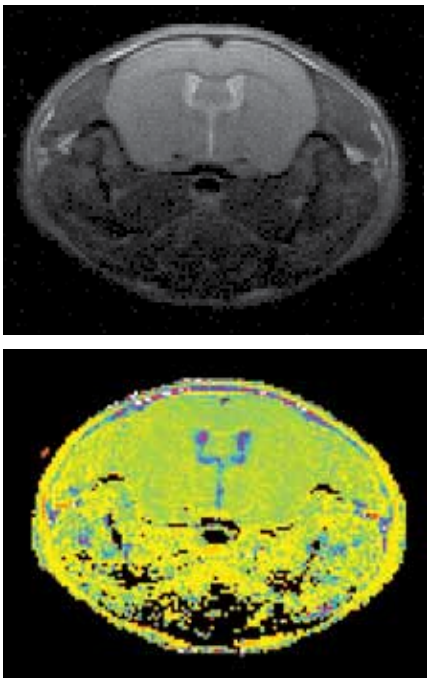
T1 map images were created using a Fast Spin Echo Inversion Recovery method with eight inversion times.



One slice was investigated from a set of 22. An ROI was placed to examine the T1 value of the cortex, making it possible to observe the classic T1 inversion recovery line shape from the mean ROI values.

Reproducible, Reliable T1 Measurements

Detect contrast agents such as manganese chloride or gadolinium, or make dynamic contrast enhanced (DCE) measurements. Data can be investigated using ROI tools or color overlays to visualize variations in T1 values. With our protocols, your images are optimized for improved structure detection.



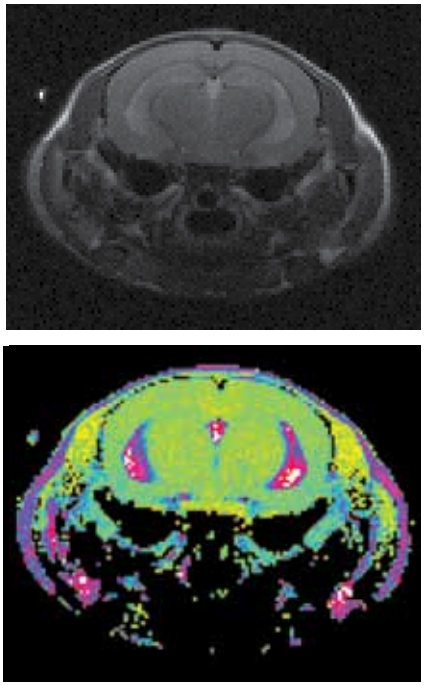
Agilent Math tools make it easy to automatically generate a T1 map and visualize variations in T1 values. Full T1 map with color overlays (Bottom) and image showing brain anatomy (Top).

Worry-Free Protocols and a Complete Set of Easy-To-Use Tools = Impressive Images

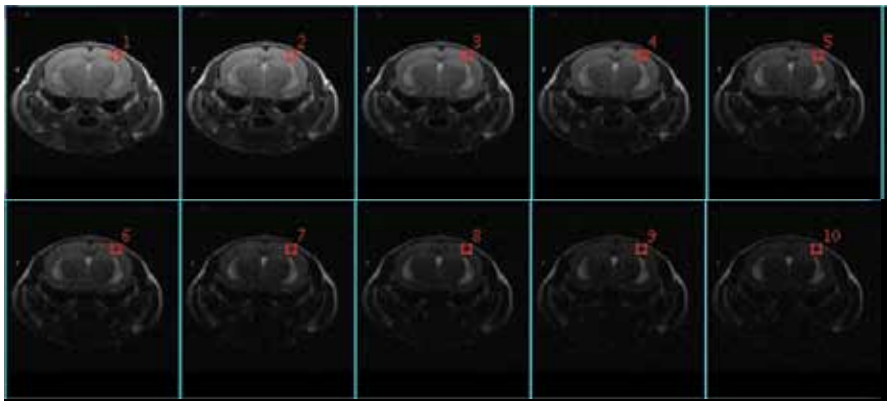
The Agilent nScope eMRI with Neuro Pack simplifies your T1 and T2 measurements, making it easier for everyone to produce sophisticated images. Imaging protocols, image viewing, and specific ROI inspections let you produce full maps with color overlays. No need to worry about how your images will turn out, all protocols are tested and optimized in real laboratory environments so you know they work!

Robust T2 Measurements

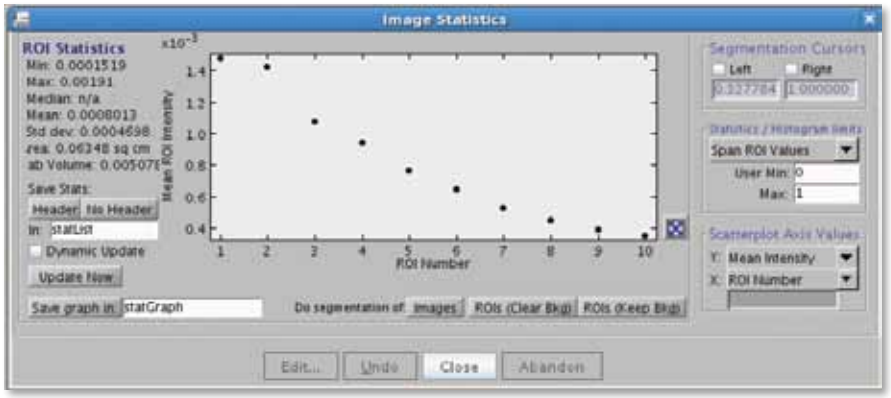
Use robust T2 measurements to investigate iron oxide based contrast agents, detect excess levels of iron in disease states, and track iron-labeled stem cells.



Full T2 Map (Bottom) generated from the data shown above and image showing brain anatomy (Top).



Multi-Echo Spin Echo method data is collected to generate a T2 map. Ten different echo time points were collected.



One slice was investigated from a set of 15. An ROI has been drawn in the cortex on this slice to examine the T2 data and it shows the classic T2 decay curve.

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